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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,785	10/17/2003	Ui-yol Kim	1793.1045	7724

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WASHINGTON, DC 20005

EXAMINER

PATEL, GAUTAM

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/19/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/686,785

Applicant(s)

KIM ET AL.

Examiner

Gautam R. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21, 28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 28-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment/Arguments:

1. This is in response to amendment filed on 11/7/06.
2. Claims 1-21 and 28-29 remain for examination.

Claim Rejections - 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 and 28-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oohchida et al., US. patent 6,584,060 (hereafter Oohchida) in view of Inada et al., J.P.O. patent Application JP 60-257584 (hereafter Inada).

As to claim 1, Oohchida discloses the invention as claimed an optical pickup [see Figs. 1, 6-7] including a light source, a grating, a reflecting member, a monitoring photodetector, an optical path changer, an objective lens and a signal detecting photodetector, comprising:

- a light source [fig. 7, unit 11] which emits light;
- a grating [fig. 7, unit 56] which separates a portion of the light emitted from the light source;
- a reflecting member [fig. 7, unit 57] which reflects another portion of the light emitted from the light source;
- a monitoring photodetector [fig. 7, unit 41A] disposed on a traveling path of the light reflected from the reflecting member and which measures the reflected light;
- an optical path changer [fig. 7, unit 141] which changes an optical path of the light separated by the grating;

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an objective lens [fig. 1, unit 21] which condenses the light the optical path of which is changed onto a disc [fig. 1, unit 101] [col. 8, unit 57-65]; and

Oohchida discloses all of the above elements, including Unit 41A performs function of monitoring the light.

Oohchida does not specifically disclose that this monitoring unit is separate from main monitoring diode and it does not monitor reflecting light to the extent claimed.

However, monitoring diodes are well known in the art for along time [e.g. Matsui US 5,066,129 & Tsunoyama US 4,690,558].

Also more importantly Inada clearly discloses:

a signal detecting photodetector [fig. 3, unit 2] which receives the light reflected from the disc, wherein the signal detecting photodetector is arranged such that optical noise due to reflection of light by the signal detecting photodetector is not received by the monitoring photodetector, enabling the monitoring photodetector to accurately determine a power of recording light [page 1-2].

Both Oohchida and Inada are interested in improving recording mechanism in an optical disk device using a photodiode and monitoring the light amount.

One of ordinary skill in the art at the time of invention would have realized that the system of Oohchida would have been sensitive to noise when monitoring the reflected light from the disc and ratio of reflected light to original light will be different and some mechanism to reduce this noise could be necessary to improve the quality of the signal

Therefore, it would have been obvious to have used a separate monitoring diode in the system of Oohchida as taught by Inada because one would be motivated to reduce noise in the system of Oohchida and provide better signal controls and improve quality of the signal by controlling the instability caused by the imbalance of the reflected light when light is returned and original light is thus eliminated [page 4; Inada].

4. The aforementioned claim 2, recites the following elements, inter alia, disclosed in Oohchida:

the light source is a laser diode [C8:L 57-65].

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5. The aforementioned claim 3, recites the following elements, inter alia, disclosed in Oohchida:

the grating has an effective aperture through which the portion of the light which is separated passes, wherein any portion of the light traveling outside of the effective aperture is ineffective light, and wherein the reflecting member is disposed on an optical path of at least a portion of the ineffective light and reflects the least a portion of the ineffective light [fig. 7B; and C 15:L 35 to C 16:L 20].

6. The aforementioned claim 4, recites the following elements, inter alia, disclosed in Oohchida:

the reflecting member is disposed around the grating [fig. 7B; and C 15:L 35 to C 16:L 20].

7. The aforementioned claim 5, recites the following elements, inter alia, disclosed in Oohchida:

5. The optical pickup of claim 1, wherein the reflective member is a mirror.

8. The aforementioned claim 6, recites the following elements, inter alia, disclosed in Oohchida:

the reflecting member is disposed only in a portion of a peripheral portion of the grating [fig. 7B; and C 15:L 35 to C 16:L 20].

9. The aforementioned claim 7, recites the following elements, inter alia, disclosed in Oohchida:

the optical path changer is one of a beam splitter [fig. 7, unit 141] which reflects or transmits incident light by a ratio according to a reflective coating of the beam splitter and a polarized beam splitter which reflects or transmits incident light according to a polarization direction of the incident light [C 15:L 35 to C 16:L 20].

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10. The aforementioned claim 8, recites the following elements, inter alia, disclosed in Oohchida:

the signal detecting photodetector detects a focusing servo signal and a tracking servo signal [inherently done without which system will not work] from the received reflected light [C 15:L 35 to C 16:L 20].

11. The aforementioned claim 9, recites the following elements, inter alia, disclosed in Oohchida:

a collimating lens [fig. 7, unit 23] which is disposed on an optical path between the optical path changer and the objective lens and converts incident thereon light into parallel light [C 15:L 35 to C 16:L 20].

12. The aforementioned claim 10, recites the following elements, inter alia, disclosed in Oohchida:

it is determined whether a power of the light measured by the monitoring photodetector is lower or higher than a reference value, and when a power of the light measured by the monitoring photodetector is one of lower and higher than the reference value, the power of the light source is controlled so that the power of the light measured by the monitoring photodetector is the reference value [C 15:L 35 to C 16:L 20].

NOTE: In this claims Applicants are merely claiming how a power monitoring is done. Oohchida does that.

13. The aforementioned claim 11, recites the following elements, inter alia, disclosed in Oohchida:

focusing servo and tracking servo operations are performed using a light signal output by the signal detecting photodetector based at least partially on light reflected from the disc [C 15:L 35 to C 16:L 20].

14. As to claim 12, it is rejected for the similar reasons set forth in the rejection of claims 1 & 3, above. [see fig. 6].

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15. The aforementioned claim 13, recites the following elements, inter alia, disclosed in Oohchida:

the monitoring photodetector [fig. 6, unit 35] is adjacent to an outer sidewall of the grating.

16. As to claims 14, 16-21, they are claims corresponding to claims 2, 9, 7-8, 6, 10-11 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 2, 9, 7-8, 6, 10-11, 11 and 11 respectively, above.

17. The aforementioned claim 15, recites the following elements, inter alia, disclosed in Oohchida:

an optical path changer [fig. 6, unit 11] disposed between the grating and the objective lens and changes an optical path of light incident thereon [C 15:L 35 to C 16:L 20].

18. As to claim 28, it is rejected for the similar reasons set forth in the rejection of claims 1, above.

19. As to claim 29, it is rejected for the similar reasons set forth in the rejection of claims 1, above.

20. Applicant's arguments with respect to above claims have been considered but are moot in view of the new grounds of rejection.

21. Oohchida was cited as a prior art reference in previous action and Inada was cited by the applicants. in IDS.

22. Applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact information

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2600) where this application or proceeding is assigned is 571-273-8300.

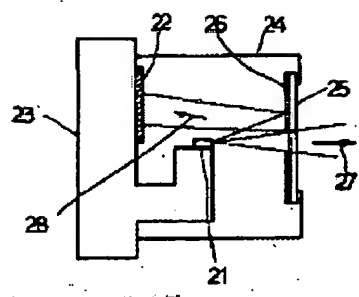
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.

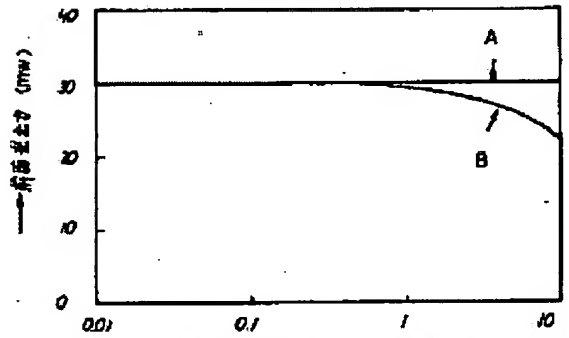

GAUTAM R. PATEL
PRIMARY EXAMINER

Gautam R. Patel
Primary Examiner
Group Art Unit 2627

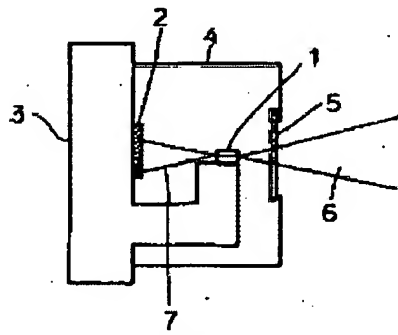
December 12, 2006



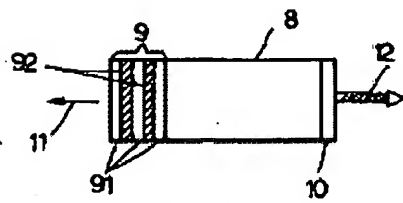
第1図



—— 炭素量 (wt%) (400°C 以上 500°C 以下 炭素量)
 第2図 100% (100)



第3図



第4図